

U.S. Patent Application Serial No. 10/049,649
Response dated August 5, 2004
Reply to Office Action of March 8, 2004

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A disk drive apparatus comprising:

a frame having a frame bottom surface and frame side walls which rise from both sides of the frame bottom surface;

a slider having a slider bottom surface and slider side walls which rise from both sides of the slider bottom surface;

a carrier which holds a disk and which is supported by the slider so as to be movable in the vertical direction; and

a horizontal guide mechanism and a vertical guide mechanism, which are arranged between the frame and the slider for slidably guiding the slider,

wherein the horizontal guide mechanism comprises an engaging piece disposed in at least one of the frame and the slider, and an engaging hole which is disposed in the other and which is engaged with the engaging piece, [[and]]

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wherein the one of the frame and the slider that has the engaging piece formed therein is made of a metallic sheet material and the engaging piece is made by bending a part of the metallic sheet material, the engaging piece having an extending part in the thickness direction of the metallic sheet material for adjusting clearances to the side edges of the engaging hole.

Claim 2 (Original): An apparatus according to Claim 1, wherein the engaging hole comprises a plurality of guide parts for restricting the movement of the engaging piece in at least two horizontal directions except the sliding direction of the slider.

Claim 3 (Original):. An apparatus according to Claim 2, wherein the engaging piece is engaged with the guide parts on both surfaces of the metallic sheet material so that the movement of the engaging piece in at least two horizontal directions is restricted.

Claim 4 (Canceled)

Claim 5 (Original): An apparatus according to claim 4, wherein the slider comprises a pressable eject button mounted thereon, and the engaging hole and the engaging piece are arranged in the vicinity of the eject button.

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Claim 6 (Original): An apparatus according to Claim 1, wherein the engaging hole is formed on the frame bottom surface and the engaging piece is formed on the slider bottom surface.

Claim 7 (currently amended): ~~An apparatus according to Claim 1, further comprising~~ A disk drive apparatus comprising:

a frame having a frame bottom surface and frame side walls which rise from both sides of the frame bottom surface;

a slider having a slider bottom surface and slider side walls which rise from both sides of the slider bottom surface;

a carrier which holds a disk and which is supported by the slider so as to be movable in the vertical direction; and

a horizontal guide mechanism and a vertical guide mechanism, which are arranged between the frame and the slider for slidably guiding the slider,

wherein the horizontal guide mechanism comprises an engaging piece disposed in at least one of the frame and the slider, and an engaging hole which is disposed in the other and which is engaged with the engaging piece,

wherein the one of the frame and the slide that has the engaging piece formed therein is made of a metallic sheet material and the engaging piece is made by bending a part of the metallic sheet material, and an urging member for urging the slider,

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wherein the frame is provided with an urging-member retainer formed from the frame by cut-up for retaining the urging member, and

wherein the engaging hole is formed in the frame so as to continue from an opening formed when the urging-member retainer is formed by cut-up.

Claim 8 (Original): An apparatus according to Claim1, wherein the vertical guide mechanism is arranged between the frame side wall and the slider side wall.

Claim 9 (Original): A disk drive apparatus comprising:

- a frame having a frame bottom surface and frame side walls which rise from both sides of the frame bottom surface;
- a slider having a slider bottom surface and slider side walls which rise from both sides of the slider bottom surface;
- a carrier which holds a disk and which is supported by the slider so as to be movable in the vertical direction; and
- a horizontal guide mechanism and a vertical guide mechanism, which are arranged between the frame and the slider for slidably guiding the slider,

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wherein the horizontal guide mechanism comprises an engaging hole disposed on the frame bottom surface and an engaging piece which is disposed in the slider and which is engaged with the engaging hole,

wherein the frame is provided with a positioning part, formed by cut-up for positioning and supporting the disk, and

wherein the engaging hole is formed so as to continue from an opening formed when the positioning part is formed by cut-up.

Claim 10 (Original): An apparatus according to Claim 9, wherein the slider is made of a metallic sheet material and the engaging piece is made by bending part of the metallic sheet material.

Claims 11-14 (Canceled)